**Service port**

Je věc, která zajišťuje spojení na 2. Vrstvě OSI mezi VLAN uvnitř DSLAMu a VDSL modemem, který je někde daleko venku. Kromě spojení umí  rámce různě upravovat, přidat tag, ubrat tag, změnit ID VLAN a mnoho a mnoho dalších věcí.

Service-port může být vytvořen v mnoha módech, ATM, PTM, atd.atd.

ATM je mód ATM, loni jsme ho probírali.

PTM je Packet Transfer Mode (PTM): Ethernet frames are transmitted over VDSL lines. Ethernet frames do not need to be fragmented into ATM cells.

Je to dost složité a moc tomu nerozumím, nicméně po mnoha pokusech jsem fungující service-port nastavil. Je docela možné, že by to fungovalo i s jiným typem service portu, ale už nemám sílu to dále zkoumat.

Create a multi-service service virtual port in the PTM mode:

**service-port** [ index ] [ **uplink-port** frameid/slotid/portid ] **vlan** vlanid **vdsl mode ptm** frameid/slotid/portid **multi-service** { **user-vlan** { { **untagged** | user-vlanid | **priority-tagged** } [ **user-encap** user-encap ] | **other-all** } | **user-encap** user-encap | **user-8021p** user-8021p [ **user-vlan** user-vlanid ] } [ **tag-transform** { **default** | **transparent** | **translate** | **translate-and-add** [ **inner-vlan** vlanid | **inner-priority** priority ]\* | **add-double** [ **inner-vlan** vlanid | **inner-priority** priority ]\* } ] [ **rx-cttr** rx-index **tx-cttr** tx-index | **inbound traffic-table** { **index** index | **name** name } **outbound traffic-table** { **index** index | **name** name } ]

Jako vždy, to, co je v závorkách [] být v příkazu nemusí. To, co je v závorkách {} tam být musí, a vybere se jedna z věcí, která v závorkách je.

Index – číslo service portu. Pokud se nezadá, tak si to nějaké číslo vymyslí.

Uplink-port nebudeme používat

Vlan je VLAN na straně DSLAMu, tedy ta, se kterou chceme komunikovat. Ta VLAN musí existovat, a pokud má k něčemu být , tak musí být připojena do uplink portu (u nás deska7), to už doufám umíte

vdsl mode ptm se tam opíše tak, jak to tam je napsáno

frameid/slotid/portid Je port, na kterém je připojen váš VDSL modem

multi-service bude tak, jak je tady napsáno

user-vlan tady je ID uživatelské VLAN, která na druhé straně vedení vylézá do vašeho VDSL modemu (ještě ne ven z LAN portů, ale končí tam někde uvnitř a v tom modemu je připojena na rozhraní. To uvidíme při programování modemu)

zřejmě tady může být místo ID VLAN napsáno untagged , pak z toho service portu do VDSL modemu ASI vylézá úplně normální ethernetový rámec, bez tagu. Tedy nevylézá VLAN. Asi by se to dalo použít u módu bridge, uvidíme při programování modemu. To, co je tam dál, jsou další šílenosti, které service port umí udělat.

Příkaz tedy vypadá nějak takhle:

service-port 123 vlan 28 vdsl mode ptm 1/2/3 multi-service user-vlan 28

Já jsem použil user-vlan stejnou jako je VLAN uvnitř DSLAMu, to je číslo 5. ASI to může číslo VLAN změnit, ale budeme rádi, když nám to bude fungovat takhle.

Než začnete nějaký port dělat, podíváte se, které porty již existují

display service-port

No a tady dál máte okopírováno z návodu, co všechno to umí, počtěte si:

**Parameters**

There are four types of parameters in the **service-port** command. For details, see [Access mode parameters](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/service-port.html#service-port_1_1__table_0286E198), [Traffic classification parameters](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/service-port.html#service-port_1_1__table_029D0D60), [VLAN translation parameters](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/service-port.html#service-port_1_1__table_0288BE28), and [Traffic profile parameters](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/service-port.html#service-port_1_1__table_02895680)

| **Table 1 Access mode parameters** | | |
| --- | --- | --- |
| **Parameter** | **Description** | **Value** |
| *index* | Indicates the index of a service virtual port. To create a service virtual port by index, use this parameter.  When creating a service virtual port, you can choose to specify the index or you can choose not to. If you do not specify it, the system allocates the smallest idle index automatically. | Numeral type. Range:   * SCUK/SCUL/SCUN: 0-32767. * SCUB/SCUF: 0-16383. * SCUH/SCUV: 0-131071. * MCUD/MCUD1/MCUE: 0-20479.   NOTE:  The service port ID of command lines is smaller than that configured on the NMS by 1. |
| **atm** | Indicates the ATM service type. When the user access mode is ATM, use this parameter. | - |
| **adsl** | Indicates the ADSL service type. When the user access mode is ADSL, use this parameter. | - |
| **shdsl** | Indicates the SHDSL service type. When the user access mode is SHDSL, use this parameter. | - |
| **vdsl** | Indicates the VDSL service type. When the user access mode is VDSL, use this parameter. | - |
| **eth** | Indicates the ETH service type. When the user access mode is ETH, use this parameter. | - |
| **gpon** | Indicates the GPON service type. When the user access mode is GPON, use this parameter. | - |
| **aoe** | Indicates the ATM over Ethernet (AoE) service. When the access user is an AoE emulation user, use this parameter.  AoE emulation is to transmit the traditional ATM service on access devices or networks in the Ethernet architecture. The ATM cell in the AoE emulation technology is not resolved or reassembled. As a whole, it is considered as an Ethernet packet or PWE3 payload, and the cell is transmitted on access devices or networks.  After the reserved VLAN is set by running the [**vlan reserve**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/vlan_reserve.html) command, the system considers the first reserved VLAN as the AOE VLAN by default. | - |
| **mode** | Indicates the VDSL working mode. It can be ATM or PTM mode.   * ATM: Indicates that the VDSL working mode is asynchronous transfer mode. * PTM: Indicates that the VDSL working mode is Ethernet. | Enumerated type. Options: atm and ptm. |
| **other-all** | Differentiates users based on the transparent LAN service (TLS). If both the TLS traffic and the traffic stream on the tagged user-side VLAN (or untagged) are configured, the user-side packet maps the user VLAN first. The packets that do not map the user-side VLAN are considered to map the TLS traffic and transmitted to the upper layer network in this special channel.  The upstream VLAN for the TLS traffic must be a QinQ VLAN or a Stacking VLAN. | - |
| *vlanid* | Indicates the VLAN ID. It identifies a VLAN uniquely. | Numeral type. Range: 1-4093. |
| **vpi** *vpi* | Indicates the virtual path identifier. It is used to identify a user when used with the VCI. | Numeral type. Range:   * xDSL board. Range: 0-255. * Other boards. Range: 0-4095. |
| **vci** *vci* | Indicates the virtual channel identifier. It is used to identify a user when used with the VPI. | * Numeral type. xDSL board. Range: 32-255. * Numeral type. Other boards. Range: 32-65535. |
| **port** *frameid/slotid/portid* | Indicates the subrack ID, the slot ID and the port ID. Enter "/" between the subrack ID, slot ID, and port ID. To create a service virtual port for a specified port, use this parameter. | Please see [**Differences Between Shelves**](http://localhost:7890/pages/31189675/02/31189675/02/resources/doc/doc_0098.html). |
| **board** *frameid/slotid* | Indicates the subrack ID and slot ID. Enter "/" between the subrack ID and the slot ID. To create a service virtual port for a specified slot, use this parameter. | Please see [**Differences Between Shelves**](http://localhost:7890/pages/31189675/02/31189675/02/resources/doc/doc_0098.html). |
| **autosense** | Indicates the auto-sensing service virtual port. This parameter is used for the system to automatically learn the VPI and VCI on the user side.  Each physical port can create one auto-sensing service stream at most, and the auto-sensing service stream cannot coexist with a common service stream. | - |
| **ont** *ontid* | Indicates the ONT ID. To set the service virtual port for a specified ONT, use this parameter. | Please see [**Differences Between Shelves**](http://localhost:7890/pages/31189675/02/31189675/02/resources/doc/doc_0098.html). |
| **eth** *port-index-list* | Indicates the Ethernet list on an ONT. To configure the service by using end-to-end service stream, use this parameter. For example, if the *port-index-list* is set to "0,2-3", it indicates port IDs are 0, 2, and 3.  This parameter cannot be configured if the [**port vlan(gpon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(gpon).html) command or the [**port vlan(epon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(epon).html) command is used to configure the VLAN of a user port.  This parameter cannot be configured if the [**port vlan(gpon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(gpon).html) command or the [**port vlan(epon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(epon).html) command is used to configure the native VLAN of an ONT port. | Character string type. A string of 1-32 characters. |
| **vdsl** *port-index-list* | Indicates the VDSL list on an ONT. To configure the service by using end-to-end service stream, use this parameter. For example, if the *port-index-list* is set to "0,2-3", it indicates port IDs are 0, 2, and 3.  This parameter cannot be configured if the [**port vlan(gpon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(gpon).html) command or the [**port vlan(epon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(epon).html) command is used to configure the VLAN of a user port.  This parameter cannot be configured if the [**port vlan(gpon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(gpon).html) command or the [**port vlan(epon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(epon).html) command is used to configure the native VLAN of an ONT port. | Character string type. A string of 1-32 characters. |
| **iphost** | Indicates the voice port on an ONT. The IPHOST port is a virtual port of an ONT, which is responsible for the communication between the voice chip and the GMAC chip.  You can use this parameter only when using the end-to-end service stream (which is created between an OLT and an ONT by running the **service-port** command).  This parameter cannot be configured if the [**port vlan(gpon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(gpon).html) command or the [**port vlan(epon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(epon).html) command is used to configure the VLAN of a user port.  This parameter cannot be configured if the [**port vlan(gpon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(gpon).html) command or the [**port vlan(epon profile)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan(epon).html) command is used to configure the native VLAN of an ONT port. | - |
| **gemport** *gemindex* | Indicates the GEM port ID. GEM ports of each PON port are numbered in a centralized way. | Numeral type. Range: 0-1023. |
| **source** | Indicate the source of the connection-oriented service virtual port. To create a connection-oriented service virtual port, use this parameter. | - |
| **destination** | Indicate the destination of the connection-oriented service virtual port. | - |
| **bundle** *bundleid* | Indicates the index of a service flow bundle which is added by a service stream. The service flow bundle is a forwarding model (CoS-based forwarding) adopted for meeting the QoS requirements of Layer 3 terminal access. Each service flow bundle corresponds to a type of service of a user; each type of service is indicated by a service flow and maps one CoS priority.  You need to run the [**service-port-bundle**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/service-port-bundle.html) command to create a service flow bundle before creating a **bundle** service. | Numeral type. Range: 0-16383. |
| **cos** *cos* | Indicates the relevant CoS value of a service virtual port that is added to a service flow Bundle. Each Cos value of the same service flow Bundle must be unique. | Numeral type. Range: 0-7. |
| **all** | To create a raw stream of an EPON port or delete all service virtual ports, use this parameter. | - |
| **uplink-port** *frameid/slotid/portid* | Indicates the subrack ID, the slot ID and the port ID. Enter "/" between the subrack ID, slot ID, and port ID. When the strict SVLAN+CVLAN forwarding (the packet is forwarded on the service board and control board based on SVLAN+CVLAN) is configured, use this parameter to specify the uplink-port. Configure the traffic stream that uses strict SVLAN+CVLAN forwarding. The procedure is as follows:   * Run the [**vlan**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/vlan.html) command to add a VLAN. * Run the [**vlan attrib**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/vlan_attrib.html) command to change the VLAN attribute to QinQ or stacking. * Run the [**mac-address learning**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/mac-address_learning.html) command to disable the MAC address learning function of the control board. * Run the [**vlan forwarding**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/vlan_forwarding.html) or [**forwarding**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/forwarding.html) command to configure the VLAN forwarding policy to the **vlan-connect** mode. * Run the [**port vlan**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/port_vlan.html) command to associate the upstream port with SVLAN and CVLAN. * Run the [**service-port(profile-mode)**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/service-port.html) command to create a service port. Use the **uplink-port** *frameid/slotid/portid* parameter and specify the SVLAN and CVLAN of the service port. The SVLAN + CVLAN must be unique globally. | Please see [**Differences Between Shelves**](http://localhost:7890/pages/31189675/02/31189675/02/resources/doc/doc_0098.html). |

| **Table 2 Traffic classification parameters** | | |
| --- | --- | --- |
| **Parameter** | **Description** | **Value** |
| **user-8021p** *user-8021p* | Indicates the user-side priority. To differentiate users by the user side priority, use this parameter. | Numeral type. Range: 0-7. |
| **single-service** | Indicates the single-service service virtual port. A single-service service virtual port carries only one type of service and does not differentiate service types. | - |
| **multi-service** | Indicates the multi-service service virtual port. A multi-service service virtual port carries multiple services and differentiates various types of service. | - |
| **user-encap** *user-encap* | Indicates the user-side encapsulation type. To differentiate users by the user-side encapsulation type, use this parameter.   * When the IPv4oE or IPv6oE traffic stream exists on the port, the IPoE traffic stream cannot be created. * When the IPoE traffic stream exists on the port, the IPv4oE or IPv6oE traffic stream cannot be created. | Enumerated type. Options: ipoe, pppoe, ipv6oe, and ipv4oe.   * If the user-side encapsulation type is PPPoE (the Ethernet type of the packet is 0x8863 or 0x8864), select **pppoe**. * If user-side packets are IPv4/IPv6 IPoE packets or other non-PPPoE packets (the Ethernet type of the packets is not 0x8863 or 0x8864), select **ipoe**. * If user-side packets are IPv6 IPoE packets or other non-PPPoE packets (the Ethernet type of the packets is 0x86dd), select **ipv6oe**. * If user-side packets are IPv4 IPoE packets or other non-PPPoE packets (the Ethernet type of the packets is not 0x8863, or 0x8864, or 0x86dd), select **ipv4oe**. |
| **user-vlan** *user-vlanid* | Indicates the IDs of the user-side VLANs. To differentiate users by user-side VLAN, use this parameter. | Numeral type. Range: 1-4095. |
| **to** *end-user-vlanid* | Indicates a user-side VLAN range when it is used with *user-vlanid*. To create a VLAN-range traffic stream in a VLAN range, use this parameter. *end-user-vlanid* must not smaller than *user-vlanid*. | Numeral type. Range: 1-4095. |
| **untagged** | When the service virtual port needs to carry multiple services and the services are differentiated by user-side VLAN, specify the packet type as untagged. | - |
| **priority-tagged** | Differentiates users by VLAN priority. When user-side packets are tagged and the VLAN tag is 0, use this parameter. | - |
|  |

| **Table 3 VLAN translation parameters** | | |
| --- | --- | --- |
| **Parameter** | **Description** | **Value** |
| **tag-transform** | Indicates the VLAN tag translation mode. The VLAN of the user-side and the network-side is translated by both upstream and downstream packets. | - |
| **default** | Indicates the default mode. The C-VLAN tag is not changed and an S-VLAN tag is added. | - |
| **transparent** | Indicates the transparent transmission mode. In this mode, the VLAN tag is not translated, but the CVLAN tag is directly used and is used as the SVLAN tag for upstream transmission. The SVLAN ID of the traffic stream must be the same as the CVLAN ID. This mode is applicable to:   * Traffic streams that are created on cascade GEM ports * Traffic streams in the **transparent** VLAN translation mode and whose SVLAN is a QinQ VLAN or Stacking VLAN. | - |
| **translate** | Indicates the translation mode. In this mode, the C-VLAN ID carried in the user packet is translated to the S-VLAN. This mode is applicable to:   * Service streams whose S-VLAN is a common VLAN, with a specified C-VLAN or VLAN+802.1p priority/EtherType The C-VLAN ID ranges from 1 to 4095 or is 0 (priority-tagged). * Service streams in the **translate** mode and whose S-VLAN is a QinQ VLAN | - |
| **translate-and-add** | Indicates the translation of the VLAN and the adding of a tag. The C-VLAN tag is translated and an S-VLAN tag is added. That is, the user packet carries two VLAN tags (S+C') for upstream transmission. This mode is applicable to:   * Service streams whose S-VLAN is a stacking VLAN, with a specified C-VLAN, VLAN+802.1p priority/EtherType The C-VLAN ID ranges from 1 to 4095 or is 0 (priority-tagged). * Service streams in the **transparent-and-add** mode and whose S-VLAN is a QinQ VLAN | - |
| **add-double** | Adds two tags. That is, two VLAN tags (S+C) are added to user-side packets. This mode is applicable to:   * Single-service service streams or service streams classified by EtherType, whose S-VLAN is a stacking SVLAN * Untagged service streams whose S-VLAN is a stacking VLAN * Service streams in the **add-double** mode and whose S-VLAN is a QinQ VLAN | - |
| **translate-double** | Translates two VLAN tags of user-side packets (S+C →S'+C'). This mode is applicable to:   * Service streams classified by S-VLAN+C-VLAN, whose S-VLAN is a stacking VLAN * Service streams with S+C VLAN tags, in the **translate-double** mode and whose S-VLAN is a QinQ VLAN   NOTE:  Only the SPUA board and the OPGD board support this mode. | - |
| **translate-and-remove** | Translates the two VLAN tags of user-side packets and delete a VLAN tag (S+C—>S'). Specifically, S-VLAN and C-VLAN of user-side packets are translated into service VLAN of service flows. When there are two layer VLAN tags in the user packets but only one VLAN tag is enough to identify user service on MA5600T/MA5603T/MA5608T, and the service VLAN in user packets is different with the one planned on MA5600T/MA5603T/MA5608T, use this parameter.  NOTE:  Only the SPUA board and the OPGD board support this mode. | - |
| **inner-vlan** *vlanid* | Indicates the translated inner VLAN. If you do not specify a value, the default VLAN 1 is adopted.  The inner VLAN can be specified only when one of the following modes is in use, **translate-and-add**, **add-double**, or **double-vlan**. | Numeral type. Range: 1-4095.  Default value: 1. |
| **inner-priority** *priority* | Indicates the 802.1p priority of the translated inner VLAN. If you do not specify a value, the inner-VLAN priority in the traffic profile referenced by a service stream is adopted. If there are no traffic profiles to be referenced by service streams, the default priority 0 is adopted. You are recommended to use the inner-VLAN priority in the traffic profile. | Numeral type. Range: 0-7.  Default value: 0. |
| **outer-vlan** *vlanid* | Indicates the translated outer VLAN.  When the service stream is **double-vlan**, you can specify the outer VLAN. | Numeral type. Range: 1-4095.  Default value: 1. |
|  |

| **able 4 Traffic profile parameters** | | |
| --- | --- | --- |
| **Parameter** | **Description** | **Value** |
| **traffic-table** | Indicates the keyword for modifying the traffic profile referenced by a service virtual port. | - |
| **inbound** | Indicates the inbound port direction. In the case of a service-oriented service virtual port, this port refers to the destination port.   * If the board role is a user role or subtend role, the inbound direction refers to the direction from the user side to the network side. * If the board role is a network role, the inbound direction refers to the direction from the network side to the user side. | - |
| **outbound** | Indicates the outbound port direction. In the case of a service-oriented service virtual port, this port refers to the destination port.   * If the board role is a user role or subtend role, the outbound direction refers to the direction from the network side to the user side. * If the board role is a network role, the outbound direction refers to the direction from the user side to the network side. | - |
| **rx-cttr** *rx-index* | Indicates the traffic index of a connection in the receiving direction (from the network side to the user side). You can select a proper traffic index in one of the following ways:   * Run the [**display traffic table**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/display_traffic_table_ip.html) command to query the traffic entries in the system. * Run the [**traffic table ip**](http://localhost:7890/pages/31189675/02/31189675/02/resources/cmd/traffic_table_ip.html) command to create traffic entries. After traffic entries are created successfully, the echoed parameter TD Index is the index of the traffic entry.   The function of this parameter is the same as the function of the **outbound** parameter. The **outbound** parameter is recommended. | Numeral type. Range: 0-1023. |
| **tx-cttr** *tx-index* | Indicates the traffic index of a connection in the sending direction (from the user side to the network side). For how to select a proper parameter, see the description of parameter **rx-cttr** *index*.  The function of this parameter is the same as the function of the **inbound** parameter. The **inbound** parameter is recommended. | Numeral type. Range: 0-1023. |
| **index** *index* | Indicates the index of the traffic profile. | Numeral type. Range: 0-1023. |
| **name** *name* | Indicates the name of the traffic profile. | Character string type, a string of 1-32 characters. |

**Related Topics**